CITY OF RUPERT (PWS 5340017)
SOURCE WATER ASSESSMENT FINAL REPORT

February 12, 2004

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

This report, *Source Water Assessment Update for the City of Rupert, Rupert, Idaho,* describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

Final susceptibility scores are derived from equally weighting system construction scores, hydrologic sensitivity scores, and potential contaminant/land use scores. Therefore, a low rating in one or two categories coupled with a higher rating in other categories results in a final rating of low, moderate, or high susceptibility. With the potential contaminants associated with most urban and heavily agricultural areas, the best score a well can get is moderate. Potential contaminants are divided into four categories, inorganic contaminants (IOCs, i.e. nitrates, arsenic), volatile organic contaminants (VOCs, i.e. petroleum products), synthetic organic contaminants (SOCs, i.e. pesticides), and microbial contaminants (i.e. bacteria). As different wells can be subject to various contamination settings, separate scores are given for each type of contaminant.

The City of Rupert (PWS 5340017) drinking water system consists of three ground water well sources. Well #1, Well #2, and the recently drilled Well #6 (November 2000) are the main wells that supply water to the system. Well #3 and Well #5 are supplemental, back-up wells that have previously been used in the case of emergencies, but are currently disconnected from the system (April, 2003). As such, this updated Source Water Assessment (SWA) report only contains information on Wells #1, #2, and #6. Wells #1, #2, and #6 have a moderate susceptibility to IOCs, VOCs, SOCs, and microbial contaminants. The moderate overall susceptibility of the City of Rupert wells can be attributed to the thick clay layers within the soils around the wells that protect the ground water from contamination combined with the predominant irrigated agricultural land use of the area that increases the risk of contamination of the wells.

Water chemistry tests are routinely conducted on the Rupert drinking water system. Contaminants detected in the drinking water system include the IOCs barium, fluoride, and nickel but at levels far below the maximum contaminant levels (MCLs). Nitrate has been detected at levels below 1.5 milligrams per liter (mg/L), less than the MCL of 10 mg/L. Arsenic has also been detected in the water system, but at 4 parts per billion (ppb), a level below the newly revised MCL of 10 ppb (enforceable in 2006). Total coliform bacteria were detected in the distribution system in October 1995, July 1998, and in November 2003. No bacteria were detected at the wells after the first two occurrences. Additional testing is scheduled for December 2003. No VOCs or SOCs have been detected in the wells. However, the delineated areas of the wells cross priority areas of nitrate and the pesticide atrazine, and county level agricultural chemical use has been rated high for the area.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

For the City of Rupert, drinking water protection activities should focus on maintaining the requirements of the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system's components and its capacity). Any spills from the potential contaminant sources listed in Tables 1, 2, and 3 (Appendix A) of this report should be carefully monitored, as should any future development in the delineated areas. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. Also, disinfection practices should be maintained if microbial contamination becomes a problem. No chemicals should be stored or applied within the 50-foot radius of the wellhead. Most of the designated areas are outside the direct jurisdiction of the City of Rupert making partnerships with state and local agencies and industry groups critical to the success of drinking water protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineations are near urban and residential land use areas. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA. There are transportation corridors near the delineations, therefore the State Department of Transportation should be involved in protection activities. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). The City of Rupert has formed a drinking water protection planning team and is currently developing a drinking water protection plan with assistance from the Idaho Department of Environmental Quality and the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR THE CITY OF RUPERT, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the rankings of this assessment mean.** Maps showing the delineated source water assessment areas and the inventory of significant potential sources of contamination identified within those areas are attached. The lists of significant potential contaminant source categories and their rankings, used to develop this assessment, are also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the EPA to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments for sources active prior to 1999 were completed by May of 2003. SWAs for sources activated post-1999 are being developed on a case-by-case basis. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of this assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The DEQ recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a drinking water protection program should be determined by the local community based on its own needs and limitations. Drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The City of Rupert drinking water system includes three community wells that serve a population of approximately 5,700 through 2,185 connections. Well #1, Well #2, and Well #6 are the main wells that supply water to the drinking water system. Well #1, drilled in 1939, is located beneath a 50,000-gallon elevated water storage tank at 7th and E Streets within the City of Rupert. The water from this well is chlorinated by gaseous chlorine and treated with a phosphate corrosion inhibitor for iron and manganese control before being pumped to the distribution system and to the storage tanks. Well #2, drilled in 1951, is located at 7th and D Streets within the City of Rupert. This water is also disinfected by gaseous chlorine and treated with a phosphate inhibitor before entering the distribution system. Well #6, drilled in 2000, is located at 1123 Fairview Avenue in the City of Rupert. Water from this well is treated at the site of the well using calcium hypochlorite polyphosphate. Water from these wells can be pumped to the 1,125,000-gallon storage tank located on 10th and A Streets or the 1,000,000-gallon concrete storage reservoir located at the Well #6 location. The 50,000-gallon elevated storage tank at 7th and E Streets may no longer be in active service (DEQ, 2003), and should be disconnected from the system to prevent it from becoming a source of contamination. The drinking water system is controlled by a radio telemetric system that senses the water level in the larger storage tank.

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Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. Washington Group, International (WGI) was contracted by DEQ to ascertain the capture zone delineations for Wells #1 and #2 using a refined computer model approved by the EPA in determining the time-of-travel (TOT) zones for water associated with the Southwest Eastern Snake River Plain (SW ESRP) aquifer. DEQ conducted the modeling necessary to determine the TOT zones for Well #6. The computer model used site-specific data, assimilated by DEQ and WGI from a variety of sources including local area well logs and hydrogeologic reports summarized below.

The ESRP is a northeast trending basin located in southeastern Idaho. The 10,000 square miles of the plain are filled primarily with highly fractured layered Quaternary basalt flows of the Snake River Group, which are intercalated with sedimentary rocks along the margins (Garabedian, 1992, p. 5). Individual basalt flows range from 10 to 50 feet thick, averaging 20 to 25 feet thick (Lindholm, 1996, p. 14). Basalt is thickest in the central part of the eastern plain and thins toward the margins.

Whitehead (1992, p. 9) estimates the total thickness of the flows to be as great as 5,000 feet. A thin layer (0 to 100 feet) of windblown and fluvial sediments overlies the basalt.

The layered basalts of the Snake River Group host one of the most productive aquifers in the United States. The aquifer is generally considered unconfined, yet may be confined locally because of interbedded clay and dense unfractured basalt (Whitehead, 1992, p. 26). Whitehead (1992, p. 22) reports that well yields of 2,000 to 3,000 gal/min are common for wells open to less than 100 feet of the aquifer. Lindholm (1996, p. 18) estimates aquifer thickness to range from 100 feet near the plain's margin to thousands of feet near the center. Models of the regional aquifer have used values ranging from 200 to 3,000 feet to represent aquifer thickness (Cosgrove et al., 1999, p. 15).

Regional ground-water flow is to the southwest paralleling the basin (Cosgrove et al., 1999; deSonneville, 1972, p. 78; Garabedian, 1992, p. 48; and Lindholm, 1996, p. 23). Reported water table gradients range from 3 to 100 ft/mile and average 12 ft/mile (Lindholm, 1996, p. 22). Gradients steepen at the plain's margin and at discharge locations.

The majority of aquifer recharge results from surface water irrigation activities (incidental recharge), which divert water from the Snake River and its tributaries (Ackerman, 1995, p. 4, and Garabedian, 1992, p. 11). Natural recharge occurs through stream losses, direct precipitation, and tributary basin underflow.

The Southwest Margin of the ESRP hydrologic province is the regional aquifer's primary discharge area. Interpretation of well logs indicates that a 1- to 23-foot-thick layer of sediment overlies the fractured basalt aquifer in Jerome County, and that an 8- to 410-foot-thick layer of sediment overlies the same aquifer in southern Minidoka and Power Counties. Published geologic maps of the Snake River Plain (Whitehead 1992, Plates 1 and 5) indicate there is 100 to 500 feet of Quaternary to Tertiary Basalt aged compacted to poorly consolidated sediments located in the Heyburn area (north of the Snake River near Burley). The saturated thickness of the regional basalt aquifer for the Southwest Margin is estimated to range from less than 500 feet near the Snake River to 1,500 feet near Minidoka.

A published water table map of the Kimberly to Bliss region of the aquifer (Moreland, 1976, p. 5) indicates that the ground-water flow direction in the Southwest Margin is similar to that depicted at the regional scale (e.g., Garabedian, 1992, Plate 4).

Annual average precipitation for the period 1951 to 1980 is 9.6 inches in both Twin Falls and Burley (Kjelstrom, 1995, p. 3). The estimated recharge from precipitation in the Southwest Margin ranges from less than 0.5 inch to more than 2 in./yr (Garabedian, 1992, p. 20). Kjelstrom (1995, p. 13) reports an annual river loss of 110,000 acre-feet to the aquifer for the 34.8-mile Minidoka-to-Milner reach of the Snake River. River gains of 210,000 acre-feet for the 21.5-mile Milner-to-Kimberly reach, and 880,000 acre-feet for the 20.4-mile Kimberly-to-Buhl reach are reported for the same period.

The delineated source water assessment areas for the three wells of the City of Rupert can best be described as wedge shaped corridors extending to the southeast from the wellheads and ending approximately 4 miles at Milner Lake of the Snake River (Figures 2, 3, and 4 in Appendix A). The actual data used by WGI and DEQ in determining the source water assessment delineation areas is available from DEQ upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and the City of Rupert and from available databases.

The dominant land use outside the area of the City of Rupert is irrigated agriculture. Land use within the immediate area of the wellheads consists of residential property and agricultural land.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both, to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

The initial contaminant inventory of the study area was conducted in June and July of 2001 as a part of the initial SWA report. During this second phase, the initial contaminant inventory was conducted in July 2003. This involved identifying and documenting potential contaminant sources within the City of Rupert Source Water Assessment Areas through the use of computer databases and Geographic Information System (GIS) maps developed by DEQ. The City of Rupert (Dennis Andrew) performed an enhanced inventory in October 2003 to update the database records of changes in business type and use of identified sources. These enhancements were added to the appropriate figures and tables.

All of the delineated source water areas for the City of Rupert wells cross Highway 25, Highway 24, and the Eastern Idaho Railroad in the 3-year TOT, major transportation corridors that can add all types of contaminants to the aquifer in the event of a spill or release. All of the delineations also include several canals or drains and Milner Lake of the Snake River, which are surface waters that can contaminate the wells via surface flooding.

The DEQ computer databases revealed several potential contaminant sources within the delineation of each well. The delineation of Well #1 has 41 potential point sources (Figure 2, Table 3, Appendix A). The delineation of Well #2 has 31 potential point sources (Figure 3, Table 4, Appendix A). The Well #6 delineation has 87 potential point sources (Figure 4, Table 5, Appendix A). These potential contaminant sources include several leaking underground storage tanks (LUSTs), underground storage tanks (USTs), dairies, a fertilizer dealer/distributor, other various automotive retail/repair and farm equipment retail/repair businesses, and some printing companies.

Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Attachment B contains the susceptibility analysis worksheets. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

The hydrologic sensitivity was moderate for Wells #1 and #2 and low for Well #6 (see Table 2). This rating reflects the poor- to moderately drained nature of the soil and the presence of low permeability clay layers above the producing zone, therefore decreasing the downward movement of contaminants toward the aquifer. For Well #6, the vadose zone is composed of less than 50% gravel and fractured basalt.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity. If the wellhead and surface seal are maintained to standards, as outlined in Sanitary Surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced.

Wells #1 and #2 rated moderate susceptibility for system construction. Well #6 rated low for system construction. The recent sanitary survey (DEQ, 2003) indicates that all of the wellhead and surface seals are maintained and that all of the wells are properly protected from surface flooding. Table 1 below includes a summary of the system construction for each well. The paragraphs below also include a summary of the system construction for each well.

Completed in 1939, Well #1 was drilled to a depth of 500 feet below ground surface (bgs) using a 16-inch diameter casing set to a depth of 99 feet bgs into "blue clay" followed by a 13-inch diameter casing set to a depth of 478 feet bgs. The thickness of the casings was not given and part of the list of the soil layers is missing from the well log. The original static water level in 1939 was at 82 feet bgs. When measured later in 1972, the static water level was found at 121 feet bgs and in 1980, it was found at 140 feet bgs. In 2002, the static water level was found at 201 feet bgs. Well #1 has a pump capacity of 1,200 gallons per minute (gpm) and a yield of 1,180 gpm. The well is designed to produce 1,000 gallons per day (gpd) with a maximum daily production of 1,200 gpd.

Well #2, constructed in 1951, was drilled to a depth of 560 feet bgs using a 16-inch diameter casing to a depth of 475 feet bgs. The static water level in 1951 was found at 94 feet bgs and in 2002 was found at 201 feet bgs. The thickness of the casings were not given and part of the well log was missing. Well #2 has a pump capacity of 1,700 gpm and a yield of 1,000 gpm. The well is designed to produce 1,500 gpd with a maximum daily production of 1,700 gpd.

Well #6 was drilled in November 2000 to a depth of 562 feet bgs. It has a 24-inch diameter casing set to a depth of 109 feet bgs into "broken black lava" followed by a 20-inch diameter casing set to a depth of 483.5 feet bgs into "black basalt." There is a 16-inch diameter perforated casing installed from 497 feet to 557 feet bgs that crosses a number of fractured basalt layers. The static water level was found in 2000 at 243 feet bgs. The vadose zone is composed of sand, gravel, and clay to 103 feet bgs followed by basalt. Water was first encountered during drilling between 6 and 20 feet bgs. Well #6 has a pump capacity of 1,200 gpm and a yield of 1,140 gpm. The well is designed to produce 1,000 gpd with a maximum daily production of 1,140 gpd.

Though the City of Rupert Wells #1 and #2 may have met construction standards at the time of their installation, current well construction standards are stricter. The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all Public Water Systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. Some of the requirements include casing thickness, well tests, and depth and formation type that the surface seal must be installed into. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. Ten-inch diameter wells require a casing thickness of at least 0.365 inches. Twelve-inch to 20-inch diameter wells require a casing thickness of at least 0.375 inches. Any wells with diameter equal to or greater than 22 inches require a casing thickness of at least 0.500 inches. Well tests are required at the design pumping rate for 24 hours or until stabilized drawdown has continued for at least six hours when pumping at 1.5 times the design pumping rate. The well log for Well #6 substantiates that Well #6 meets current construction standards.

Table 1. City of Rupert Well Construction Summary Information

Well	Well Depth (ft)	Water Table Depth (ft)	Casing: diameter/ thickness (in)	Casing: depth (ft)/ formation	Surface seal: depth (ft)/ formation	Screened Interval (ft)	Drill Year	Sanitary Survey Elements (A/B) [1]
Well #1	500	201	16/NI 13/NI	99/blue clay 478/NI	NI	NI	1939	Unk/Yes
Well #2	560	201	16/NI	475/NI	NI	NI	1951	Unk/Yes
Well #6	562	243	24/0.375, 20/0.375, 16/NI	109/broken black lava, 483.5/black basalt	170/soft black scoria and brown clay	497-557	2000	Yes/Yes

[1] A = Well and surface seal in compliance; B = Protected from surface flooding
NI = no information was available, Unk = Unknown (as per DEQ, 2003)

Potential Contaminant Source and Land Use

All of the City of Rupert wells have a high land use rating for IOCs (e.g. arsenic, nitrate), VOCs (e.g. petroleum products), and SOCs (e.g. pesticides), and a moderate land use rating for microbial contaminants (e.g. bacteria). The predominant irrigated agricultural land led to the county being rated high for agricultural chemical use as well as the nitrate and pesticide priority areas. This contributed the largest numbers of points to the contaminant inventory ratings. Most of the potential contaminant sources within the delineations are in the 3-year TOT where leachable contaminants can affect the well water more readily, contributing to the high ratings.

Final Susceptibility Rating

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well, despite the land use of the area, because a pathway for contamination already exists. Additionally, the storage or application of any potential contaminants within 50 feet of the wellhead will lead to an automatic high score. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0- to 3-year time-of-travel zone (Zone 1B) and much agricultural land contribute greatly to the overall ranking. In terms of total susceptibility, all of the Rupert wells rated moderate susceptibility to all potential contaminant categories.

Table 2. Summary of the City of Rupert Susceptibility Evaluation

Source	**Susceptibility Scores[1]**									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	**Final Susceptibility Ranking**			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well #1	M	H	H	H	M	M	M	M	M	M
Well #2	M	H	H	H	M	M	M	M	M	M
Well #6	L	H	H	H	M	L	M	M	M	M

[1]H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Susceptibility Summary

In terms of total susceptibility, all of the wells have a moderate susceptibility to all potential contaminant categories. The predominant irrigated agricultural land that surrounds the wells combined with the protective composition of the hydrogeology of the area contributed to the final moderate susceptibility ratings of all of the City of Rupert wells.

Water chemistry tests are routinely conducted on the Rupert drinking water system. Contaminants detected in the drinking water system include the IOCs barium, fluoride, and nickel but at levels far below the MCLs. Nitrate has been detected at levels below 1.5 mg/L, less than the MCL of 10 mg/L. Arsenic has also been detected in the water system, but at 4 ppb, a level below the newly revised MCL of 10 ppb (enforceable in 2006). Total coliform bacteria were detected in the distribution system in October 1995, July 1998, and in November 2003. No bacteria were detected at the wells after the first two occurrences. Additional testing is scheduled for December 2003. No VOCs or SOCs have been detected in the wells. However, the delineated areas of the wells cross priority areas of nitrate and the pesticide atrazine, and county level agricultural chemical use has been rated high for the area.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local drinking water protection area. A community with a fully developed drinking water protection program will incorporate many strategies, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). For the City of Rupert, drinking water protection activities should first focus on maintaining the requirements of the sanitary survey. Any spills from the potential contaminant sources listed in Tables 3, 4, and 5 (Appendix A) of this report should be carefully monitored, as should any future development in the delineated areas. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. Also, disinfection practices should be maintained if microbial contamination becomes a problem. No chemicals should be stored or applied within the 50-foot radius of the wellhead. Most of the designated areas are outside the direct jurisdiction of the City of Rupert making partnerships with state and local agencies and industry groups critical to the success of drinking water protection.

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A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). The City of Rupert has formed a drinking water protection planning team and is currently developing a drinking water protection plan with assistance from the Idaho Department of Environmental Quality and the Idaho Rural Water Association.

Assistance

Public water suppliers and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Twin Falls Regional DEQ Office	(208) 736-2190
State DEQ Office	(208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper, Idaho Rural Water Association, at 1-208-373-7001 for assistance with drinking water protection (formerly wellhead protection) strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund≅ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

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Attachment A

City of Rupert
Figure 2, Table 3
Figure 3, Table 4
Figure 4, Table 5

Table 3. Well #1. Potential Contaminant Inventory

Site	Source Description[1]	TOT[2] Zone	Source of Information	Potential Contaminants[3]
1, 9	LUST - Site Cleanup Completed , Impact:: GROUND WATER; UST - Closed	0 – 3	Database Search	VOC, SOC
2, 5	LUST - Site Cleanup Completed, Impact: Unknown; UST - Closed	0 – 3	Database Search	VOC, SOC
3, 6	LUST - Site Cleanup Completed, Impact: Unknown; UST - Closed	0 – 3	Database Search	VOC, SOC
4, 7	LUST - Site Cleanup Completed, Impact: Unknown; UST - Closed	0 – 3	Database Search	VOC, SOC
8, 23	UST - Closed; Motorcycles & Motor Scooters-Dealers	0 – 3	Database Search	VOC, SOC
10	UST - Closed	0 – 3	Database Search	VOC, SOC
11, 28	UST - Closed; Truck Equipment & Parts-Wholesale	0 – 3	Database Search	IOC, VOC, SOC
12	UST - Closed	0 – 3	Database Search	VOC, SOC
13	UST - Closed	0 – 3	Database Search	VOC, SOC
14, 39	UST - Closed; Tire Dealers-Retail	0 – 3	Database Search	VOC, SOC
15	Dairy<=200 cows	0 – 3	Database Search	IOC, Microbes
16	Hardware-Retail	0 – 3	Database Search	IOC, VOC, SOC
17	Automobile Parts & Supplies-Retail	0 – 3	Database Search	IOC, VOC, SOC
18	Automobile Detail & Clean-Up Service	0 – 3	Database Search	IOC, VOC, SOC
19	Machine Shops	0 – 3	Database Search	IOC, VOC, SOC
20	Feed-Dealers (Wholesale)	0 – 3	Database Search	IOC, SOC, Microbes
21	Wrecker Service	0 – 3	Database Search	IOC, VOC, SOC
22	Bus Lines	0 – 3	Database Search	IOC, VOC, SOC
24	Funeral Director	0 – 3	Database Search	IOC, Microbes
25	Automobile Repairing & Service	0 – 3	Database Search	IOC, VOC, SOC
26	Automobile Repairing & Service	0 – 3	Database Search	IOC, VOC, SOC
27	Automobile Parts & Supplies-Wholesale	0 – 3	Database Search	IOC, VOC, SOC
29	Commercial Printing NEC	0 – 3	Database Search	IOC, VOC
30	Parking Area Maintenance & Marking	0 – 3	Database Search	IOC, VOC, SOC
31, 32	Automobile Repairing & Service; Automobile Radiator-Repairing	0 – 3	Database Search	IOC, VOC, SOC
33	Cleaners	0 – 3	Database Search	VOC
34	Farm Equipment (Wholesale)	0 – 3	Database Search	VOC, SOC
35	Farm Equipment-(Manufacturers)	0 – 3	Database Search	IOC, VOC, SOC
36	Photographers-Portrait (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
37	Automobile Body-Repairing & Painting (Historic)	0 – 3	Enhanced Inventory	IOC, VOC, SOC
38	Newspapers (Publishers) (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
40	Newspapers (Publishers) (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
41	RCRA Site	0 – 3	Database Search	IOC, VOC, SOC
	Highway 25	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Highway 24	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Eastern Pacific Railroad	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Main Drain	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	A-Canal	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Milner Lake of Snake River	3 – 6	GIS Map	IOC, VOC, SOC
	D-3 Drain	3 – 6	GIS Map	IOC, VOC, SOC
	A-1 Canal	3 – 6	GIS Map	IOC, VOC, SOC

[1] LUST = leaking underground storage tank, UST = underground storage tank, RCRA = Resource Conservation and Recovery Act
[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 4. Well #2. Potential Contaminant Inventory.

Site	Source Description[1]	TOT[2] Zone	Source of Information	Potential Contaminants[3]
1, 3	LUST-Site Cleanup Completed, Impact: Unknown; UST-Closed	0 – 3	Database Search	VOC, SOC
2, 4	LUST-Site Cleanup Completed, Impact: Unknown; UST-Closed	0 – 3	Database Search	VOC, SOC
5, 17	UST-Closed; Motorcycles & Motor Scooters-Dealers	0 – 3	Database Search	VOC, SOC
6, 19	UST-Closed; Truck Equipment & Parts-Wholesale	0 – 3	Database Search	IOC, VOC, SOC
7	UST-Closed	0 – 3	Database Search	VOC, SOC
8	UST-Closed	0 – 3	Database Search	VOC, SOC
9, 29	UST-Closed; Tire Dealers-Retail	0 – 3	Database Search	IOC, VOC, SOC
10	Dairy<=200 cows	0 – 3	Database Search	IOC, Microbes
11	Hardware-Retail	0 – 3	Database Search	IOC, VOC, SOC
12	Automobile Parts & Supplies-Retail	0 – 3	Database Search	IOC, VOC, SOC
13	Machine Shops	0 – 3	Database Search	IOC, VOC, SOC
14	Feed-Dealers (Wholesale)	0 – 3	Database Search	IOC, SOC, Microbes
15	Wrecker Service	0 – 3	Database Search	IOC, VOC, SOC
16	Bus Lines	0 – 3	Database Search	IOC, VOC, SOC
18	Automobile Parts & Supplies-Wholesale	0 – 3	Database Search	IOC, VOC, SOC
20	Parking Area Maintenance & Marking	0 – 3	Database Search	IOC, VOC, SOC
21, 22	Automobile Repairing & Service; Automobile Radiator-Repairing	0 – 3	Database Search	IOC, VOC, SOC
23	Cleaners	0 – 3	Database Search	VOC
24	Farm Equipment (Wholesale)	0 – 3	Database Search	VOC, SOC
25	Farm Equipment-Manufacturers	0 – 3	Database Search	IOC, VOC, SOC
26	Photographers-Portrait (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
27	Automobile Body-Repairing & Painting (Historic)	0 – 3	Enhanced Inventory	IOC, VOC, SOC
28	Newspapers (Publishers) (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
30	Newspapers (Publishers) (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
36	RCRA Site	0 – 3	Database Search	IOC, VOC
	Highway 25	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Highway 24	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Eastern Pacific Railroad	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Main Drain	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	A-Canal	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Milner Lake of Snake River	3 – 6	GIS Map	IOC, VOC, SOC
	D-3 Drain	3 – 6	GIS Map	IOC, VOC, SOC
	A-1 Canal	3 – 6	GIS Map	IOC, VOC, SOC

[1] LUST = leaking underground storage tank, UST = underground storage tank, RCRA = Resource Conservation and Recovery Act
[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 5. Well #6. Potential Contaminant Inventory.

Site	Source Description[1]	TOT[2] Zone	Source of Information	Potential Contaminants[3]
1, 10	LUST Site Cleanup Completed , Impact: Unknown; UST site - closed	0 – 3	Database Search	VOC, SOC
2, 19	LUST Site Cleanup Completed, Impact: GROUND WATER; UST site - closed	0 – 3	Database Search	VOC, SOC
3, 11	LUST Site Cleanup Completed, Impact: Unknown; UST site - closed	0 – 3	Database Search	VOC, SOC
4, 12, 35, 80	LUST Site Cleanup Completed , Impact: GROUND WATER; UST site - open; Oils-Fuel (Wholesale); SARA site	0 – 3	Database Search	VOC, SOC
5, 14	LUST Site Cleanup Completed, Impact: Unknown; UST site - closed	0 – 3	Database Search	VOC, SOC
6, 15, 78	LUST Site Cleanup Completed, Impact: Unknown; UST site - open; SARA site	0 – 3	Database Search	VOC, SOC
7, 16	LUST Site Cleanup Completed, Impact: Unknown; UST site - closed	0 – 3	Database Search	IOC, VOC, SOC
8, 17	LUST Site Cleanup Completed, Impact: Unknown; UST site - open	0 – 3	Database Search	VOC, SOC
9	UST site, Gas Station, Impact: Open	0 – 3	Database Search	VOC, SOC
13, 74	UST site, Auto Dealership , Impact: Closed; RCRA site	0 – 3	Database Search	VOC, SOC
18, 45	UST Site, Commercial, Impact: Closed; Motorcycles & Motor Scooters - Dealer	0 – 3	Database Search	IOC, VOC, SOC
20	UST site, Railroad, Impact: Closed	0 – 3	Database Search	VOC, SOC
21, 82	UST Site, Gas Station, Impact: Open; SARA site	0 – 3	Database Search	IOC, VOC, SOC
24, 53	UST Site - Closed; Truck Equipment & Parts - Wholesale	0 – 3	Database Search	IOC, VOC, SOC
22	UST site, Utilities, Impact: Open	0 – 3	Database Search	IOC, VOC, SOC
23	UST site, Local Government, Impact: Closed	0 – 3	Database Search	VOC, SOC
25	UST site - Closed	0 – 3	Database Search	VOC, SOC
26	UST site - Closed	0 – 3	Database Search	VOC, SOC
27, 69	UST site, Commercial, Impact: Closed; Historic Tire Dealership	0 – 3	Database Search	VOC, SOC
28	Hardware-Retail	0 – 3	Database Search	IOC, VOC, SOC
29	Aerial Applicators	0 – 3	Database Search	IOC, VOC, SOC
30	Oils-Fuel (Wholesale)	0 – 3	Database Search	IOC, VOC, SOC
31	Motorcycles & Motor Scooters-Rpr	0 – 3	Database Search	IOC, VOC, SOC
32	Automobile Body-Repairing & Painting	0 – 3	Database Search	IOC, VOC, SOC
33	Painters	0 – 3	Database Search	IOC, VOC, SOC
34	Automobile Detail & Clean-Up Service	0 – 3	Database Search	IOC, VOC, SOC
36	Machine Shops	0 – 3	Database Search	IOC, VOC, SOC
37	Railroads	0 – 3	Database Search	IOC, VOC, SOC
38	Car Washing & Polishing	0 – 3	Database Search	IOC, VOC
39	Feed-Dealers (Wholesale)	0 – 3	Database Search	IOC, SOC, Microbes
40	Automobile Body-Repairing & Painting	0 – 3	Database Search	IOC, VOC, SOC
41	Wrecker Service	0 – 3	Database Search	IOC, VOC, SOC
42	Livestock Breeders	0 – 3	Database Search	IOC, Microbes
43	Storage-Household & Commercial	0 – 3	Database Search	IOC, VOC, SOC
44	Bus Lines	0 – 3	Database Search	IOC, VOC, SOC
46	Funeral Directors	0 – 3	Database Search	IOC, Microbes
47	Automobile Repairing & Service	0 – 3	Database Search	IOC, VOC, SOC
48	Transmissions-Automobile	0 – 3	Database Search	IOC, VOC, SOC

Site	Source Description[1]	TOT[2] Zone	Source of Information	Potential Contaminants[3]
49, 71, 81	Cheese Processors; TRI Site; SARA site	0 – 3	Database Search	IOC, SOC, Microbes
50	Automobile Repairing & Service	0 – 3	Database Search	IOC, VOC, SOC
51	Painters	0 – 3	Database Search	IOC, VOC, SOC
52	Automobile Parts & Supplies-Wholesale	0 – 3	Database Search	IOC, VOC, SOC
54	Hospitals	0 – 3	Database Search	IOC, VOC, SOC
55	Service Stations-Gasoline & Oil	0 – 3	Database Search	IOC, VOC, SOC
56	Trucking-Liquid & Dry Bulk	0 – 3	Database Search	IOC, VOC, SOC
57	Livestock Breeders	0 – 3	Database Search	IOC, Microbes
58	Farm Equipment (Wholesale)	0 – 3	Database Search	IOC, VOC, SOC
59	Commercial Printing	0 – 3	Database Search	IOC, VOC
60	Ambulance Service	0 – 3	Database Search	IOC, VOC, SOC
61	Parking Area Maintenance & Marking	0 – 3	Database Search	IOC, VOC, SOC
62	Home Improvements	0 – 3	Database Search	IOC, VOC, SOC
63	Cleaners	0 – 3	Database Search	VOC
64	Farm Equipment (Wholesale)	0 – 3	Database Search	IOC, VOC, SOC
65	Farm Equipment-Manufacturers	0 – 3	Database Search	IOC, VOC, SOC
66	Photographers-Portrait (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
67	Automobile Body-Repairing & Painting (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
68	Newspapers (Publishers) (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
70	Newspapers (Publishers) (Historic)	0 – 3	Enhanced Inventory	IOC, VOC
72	CERCLA site	0 – 3	Database Search	IOC, VOC, SOC
73	RCRA site	0 – 3	Database Search	IOC, VOC, SOC
75	RCRA site	0 – 3	Database Search	IOC, VOC, SOC
76	RCRA site	0 – 3	Database Search	IOC, VOC, SOC
77	Active Deep Injection Well	0 – 3	Database Search	IOC, VOC, SOC, Microbes
79	SARA site	0 – 3	Database Search	IOC, VOC, SOC
83	SARA site	0 – 3	Database Search	IOC, VOC, SOC
	Highway 25	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Highway 24	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Eastern Pacific Railroad	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	Main Drain	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
	A-Canal	0 – 3	GIS Map	IOC, VOC, SOC, Microbes
84	Dairy <= 200 cows	3 – 6	Database Search	IOC
	D-3 Drain	3 – 6	GIS Map	IOC, VOC, SOC
	A-1 Canal	3 – 6	GIS Map	IOC, VOC, SOC
	Milner Lake of Snake River	6 – 10	GIS Map	IOC, VOC, SOC

[1] LUST = leaking underground storage tand, UST = underground storage tank, RCRA = Resource Conservation and Recovery Act, SARA = superfund amendments reauthorization act, CERCLA = Comprehensive Environmental Response Compensation and Liability Act, TRI = Toxic Release Inventory
[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Attachment B

City of Rupert
Susceptibility Analysis
Worksheets

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report   Public Water System Name : RUPERT CITY OF   Well# : WELL #1

Public Water System Number 5340017   1/3/2002 3:38:04 PM

1. System Construction		SCORE			
Drill Date	3/1/1939				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	1994			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		4			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		2			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	YES	2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		4	2	4	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	32	41	34	9
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leacheable contaminants or	YES	36	41	34	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
Total Potential Contaminant Source / Land Use Score - Zone 1B		18	16	18	12
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		5	5	5	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		0	0	0	0
Cumulative Potential Contaminant / Land Use Score		27	23	27	14
4. Final Susceptibility Source Score		11	11	11	11
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Report   Public Water System Name : RUPERT CITY OF   Well# : WELL #2

Public Water System Number 5340017   1/3/2002 1:15:00 PM

1. System Construction		SCORE			
Drill Date	8/1/1951				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	1994			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		4			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
Total Hydrologic Score		2			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	YES	2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		4	2	4	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	26	33	27	8
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leacheable contaminants or	YES	30	33	37	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
Total Potential Contaminant Source / Land Use Score - Zone 1B		18	16	18	12
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		5	5	5	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		0	0	0	0
Cumulative Potential Contaminant / Land Use Score		27	23	27	14
4. Final Susceptibility Source Score		11	11	11	11
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

Ground Water Susceptibility Report   Public Water System Name : RUPERT CITY OF   Well# : WELL #6
Public Water System Number 5340017   12/5/2003 7:52:16 AM

1. System Construction		SCORE			
Drill Date	11/15/2000				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2003			
Well meets IDWR construction standards	YES	0			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES/NO	1			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
	Total System Construction Score	1			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	YES	0			
	Total Hydrologic Score	1			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	YES	2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
	Total Potential Contaminant Source/Land Use Score - Zone 1A	4	2	4	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	55	65	60	11
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leacheable contaminants or	YES	14	23	13	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2	0
Land use Zone 1B	Greater Than 50% Irrigated Agricultural Land	4	4	4	4
	Total Potential Contaminant Source / Land Use Score - Zone 1B	18	16	18	12
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
	Potential Contaminant Source / Land Use Score - Zone II	5	5	5	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	
	Total Potential Contaminant Source / Land Use Score - Zone III	3	3	3	0
Cumulative Potential Contaminant / Land Use Score		30	26	30	14
4. Final Susceptibility Source Score		8	7	8	7
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate